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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/066,374

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Sung-wei Sun

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04/01/2004

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EXAMINER

PHAM, LEDA T

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 04/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/066,374

Applicant(s)

SUN ET AL.

Examiner

Leda T. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Response to Amendment

1. This office action is in response to Amendment filed on 12/24/03.
2. Claims 1 – 15 are presented for examination.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong (U.S. Patent No. 6,420,810 B1) in view of Horng (U.S. Patent No. 6,435,722 B1).

Referring to claim 1, Jeong teaches a motor (figure 3) having a magnetic bearing comprising:

- a base (21) provided with a bearing seat (20);
- a stator (30) fixed onto the base;
- a rotor (50) equipped with a rotation shaft (40) and rotating relatively to the stator by magnetic forces generated from excitation;
- a bearing (bearing system 60 and 70) fastened to the bearing seat of the base for accommodating the rotation shaft of the rotor (60 fastened to 20);
- and a magnetic unit composed of a first (90), a second (80) and a third (100) magnetic elements, wherein the second magnetic element is located below the first magnetic element; the third magnetic element is located below the second magnetic element; by employing the

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magnetic unit, the second magnetic element is restrained between the first and third magnetic elements, and therefore limiting a shift range of the rotation shaft (figure 3).

However, Jeong fails to teach the bearing fastened to the bearing seat of the base is self-lubricant bearing.

Hornig teaches a combination structure for oil-impregnated bearing (figure 1) having a motor with a self-lubricant bearing (2) fastened to a bearing seat (1) for supporting the motor shaft rotating smoothly and reducing noise of rotation.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Jeong's bearing with a self-lubricant bearing as taught by Hornig. Doing so would reduce noise of the rotation in the motor.

Referring to claim 2, Jeong teaches the motor having a magnetic bearing wherein the first magnetic element (90) is anchored to the bearing seat (20), the second magnetic element (80) is telescopically fitted to the outside of the rotation shaft (40) and the third magnetic (100) element is secured onto the base (21).

Referring to claim 4, Jeong teaches the motor having a magnetic bearing wherein the first and second magnetic elements are of the same pole and repulsive to each other (90, 80, figure 6), and the second and third magnetic elements are of the same pole and repulsive to each other (80, 100, figure 6).

Referring to claim 6, Jeong teaches the motor (figure 7) having a magnetic bearing comprising:

- a base (21) provided with a bearing seat (20);

- a stator (30) fixed onto the base,

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a rotor (50) equipped with a rotation shaft (40) and rotating relatively to the stator by magnetic forces generated from excitation;

a bearing (bearing system 100, 110) fastened to the bearing seat (20) of the base (21) for accommodating the rotation shaft of the rotor;

an upper magnetic unit composed of a first and second magnetic elements (70, 60), wherein the first magnetic element (70) is located above the second magnetic element (60) to generate a magnetic force therebetween to prevent the contact with each other;

and a lower magnetic unit composed of a third and a fourth magnetic elements (90, 80), wherein the third magnetic element (90) is located above the fourth magnetic element (80) to generate a magnetic force therebetween to prevent the contact with each other.

However, Jeong fails to teach the bearing fastened to the bearing seat of the base is self-lubricant bearing.

Horng teaches a combination structure for oil-impregnated bearing (figure 1) having a motor with a self-lubricant bearing (2) fastened to a bearing seat (1) for supporting the motor shaft rotating smoothly and reducing noise of rotation.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Jeong's bearing with a self-lubricant bearing as taught by Horng. Doing so would reduce noise of the rotation in the motor.

Referring to claim 9, Jeong teaches the motor having a magnetic bearing wherein the first and second magnetic elements (70, 60) are of the same pole and repulsive to each other, and the third and fourth magnetic elements (90, 80) are also of the same pole and repulsive to each other (figure 7).

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Referring to claim 11, Jeong teaches a motor having a magnetic bearing (figure 7) comprising:

- a base (21) provided with a bearing seat (20);
- a stator (30) fixed onto the base,
- a rotor (50) equipped with a rotation shaft (40) and rotating relatively to the stator by magnetic forces generated from excitation;
- a bearing (bearing system 100, 110) fastened to the bearing seat (20) of the base (21) for accommodating the rotation shaft of the rotor;
- a magnetic unit (90, 80) composed of a first and a second magnetic elements, wherein the second magnetic element (80) is located below the first magnetic element (90) to provide an axial magnetic force and compensate the magnetic bias formed between the stator and the rotor, thus obtaining constant magnetic equilibrium.

However, Jeong fails to teach the bearing fastened to the bearing seat of the base is self-lubricant bearing.

Horng teaches a combination structure for oil-impregnated bearing (figure 1) having a motor with a self-lubricant bearing (2) fastened to a bearing seat (1) for supporting the motor shaft rotating smoothly and reducing noise of rotation.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Jeong's bearing with a self-lubricant bearing as taught by Horng. Doing so would reduce noise of the rotation in the motor.

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Referring to claim 12, Jeong teaches the motor having a magnetic bearing wherein the first magnetic element (90) is fixed to the bearing seat (20) and the second magnetic element (80) is ring-shaped with its center hole telescopically fitted to the rotation shaft.

Referring to claim 14, Jeong teaches the motor having a magnetic bearing wherein the first and second magnetic elements (90, 80) are of the same pole and repulsive to each other (figure 7).

Referring to claim 3, 7 – 8, and 13, Jeong teaches the claimed invention except for the added limitation of the first magnetic element fitted to the rotation shaft, the second magnetic element anchored to the bearing seat, and the third magnetic element fitted to the rotation shaft. Jeong, however, teaches the first magnetic element (90) anchored to the bearing seat (20), the second magnetic element (80) fitted to the rotation shaft (40), and the third magnetic element (100) anchored to the bearing seat (20). Thus, it would be obvious to one of ordinary skill in the art at the time the invention was made to rearrange the magnetic elements for fitting to the rotation shaft or the bearing seat. Doing so would not change any function of the magnetic elements. Also, it has been held that rearranging parts of an invention involves only routine skill in the art, *In re Japikse*, 86 USPQ 70

Referring to claim 5, 10, and 15, Jeong teaches the claimed invention except for the added limitation of the magnetic elements opposite poles, and attractive towards each other. However, Jeong teaches in his invention that the magnetic elements are of the same poles, and repulsive to each other. Thus, it would be obvious to one of ordinary skill in the art at the time the invention was made to rearrange the magnetic elements to keep the shaft rotating and does not contact to the bearing seat (Jeong U.S. Patent No. 6,340,854 B1). Doing so would not

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change any function of the magnetic elements, and still keeping the rotation of the shaft without contacting to the bearing seat. Also, it has been held that rearranging parts of an invention involves only routine skill in the art, *In re Japikse*, 86 USPQ 70

Response to Arguments

5. Applicant's arguments with respect to claims 1 -15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leda T. Pham whose telephone number is (571) 272-2032. The examiner can normally be reached on M-F (8:30-6:00) first Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leda T. Pham
Examiner
Art Unit 2834


TRAN NGUYEN
PRIMARY EXAMINER

LTP
March 26, 2004